AMENDMENTS TO THE CLAIMS

1. **(Previously Presented)** A method of generating a random binary waveform containing events which occur at random intervals, the method comprising:

deriving, from a physical noise source, a first preliminary signal containing first events occurring asynchronously and at random intervals; and

multiplying the first preliminary signal with at least one further preliminary signal containing further events, said at least one further preliminary signal being a deterministic signal, so as to intersperse the first and further events;

wherein the physical noise source produces a non-deterministic output.

2-3. **(Canceled)**

2 ~~4~~. **(Previously Presented)** A method as claimed in claim 1, wherein the preliminary signals are combined by analogue multiplication.

3 ~~5~~. **(Previously Presented)** A method as claimed in claim 1, wherein the preliminary signals are binary signals which are combined by binary multiplication.

4 ~~6~~. **(Previously Presented)** A method as claimed in claim 3 ~~5~~, wherein the preliminary signals are combined by an Exclusive-OR operation.

7-8. **(Canceled)**

5 ~~9.~~ **(Previously Presented)** A method as claimed in claim 1, wherein said at least one further preliminary signal is a pseudo-random binary sequence.

6 ~~10.~~ **(Previously Presented)** A method as claimed in claim 1, wherein said at least one further preliminary signal is a chaotic signal.

11-12. **(Canceled)**

7 ~~13.~~ **(Previously Presented)** A method as claimed in claim 1, including producing a signal form said physical noise source and applying a spectral filter to the signal in order to obtain said first preliminary signal.

8 ~~14.~~ **(Previously Presented)** A method as claimed in claim 1, wherein the number of preliminary signals, including said first and further preliminary signals, is equal to 3 or 4.

9 ~~15.~~ **(Previously Presented)** A method of detecting objects comprising measuring the delay between transmission of a signal modulated by a random binary waveform generated by a method according to claim 1 and receipt of the reflection of the signal from the object.

10 ~~16.~~ **(Previously Presented)** Apparatus for generating a random binary waveform containing events which occur at random intervals, the apparatus comprising:

a physical noise source producing a random output signal;

means for deriving, from said random output signal, a first preliminary signal containing first events occurring asynchronously at random intervals;

means for providing at least one further preliminary signal containing further events occurring at said random intervals, said further preliminary signal being a deterministic signal; and

means for multiplying the first preliminary signal and said at least one further preliminary signal so as to produce a random binary waveform in which said first and further events are interspersed;

wherein the physical noise source produces a non-deterministic output.

11 ~~17.~~ **(Previously Presented)** An apparatus as claimed in claim 10 ~~16~~, wherein said at least one further preliminary signal is a pseudo-random binary sequence.

18-23. **(Canceled)**